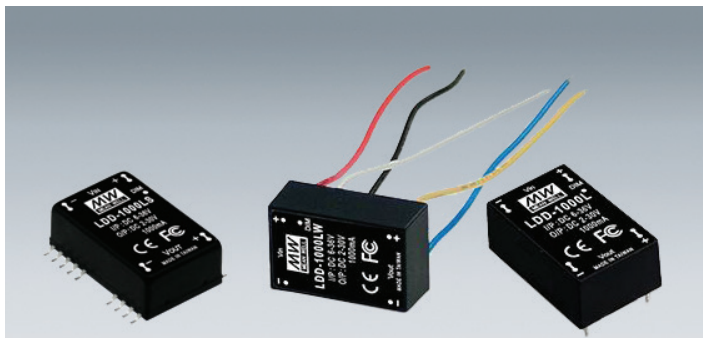


LDD-H Series

DC-DC Constant Current Step-Down LED Driver



Case No: 8918JU
31.8 x 20.3 x 12.2mm or for LDD-H/HW; 31.8 x 20.3 x 11.4mm for LDD-HS

Features

- DC/DC step-down converter
- Constant Current Output: 300mA to 1500mA
- Wide input voltage: 9 ~ 56 VDC
- Wide output LED string voltage: 2 ~ 52VDC
- High efficiency up to 97%
- Built-in EMI filter, comply with EN55015 and FCC part 15 without additional input filter and capacitors
- Built-in PWM and remote ON/OFF control
- Protections: Short Circuit / Over Temperature
- Cooling by free air convection
- Fully encapsulated with IP67 level for pin and wire style
- Non-potted, optional conformal coating for SMD style (order No: LDD-350-1000 HSC)
- Suitable for driving illumination LED
- Compact size
- 3 years warranty

LDD-1500H W Blank: pin style W: Wire style S: SMD style



Specification

INPUT	Voltage Range	9 ~ 56VDC						9 ~ 52VDC		
	Efficiency	97% at full load and 36VDC/48VDC input for LDD-H/HW ; 96% at full load and 36VDC/48VDC input for LDD-HS								
	DC Current	Full load:	270mA	320mA	450mA	550mA	650mA	900mA	1100mA	1360mA
	No Load:	5mA								
	Filter	Capacitor								
OUTPUT	MODEL No.	LDD-300H <input type="checkbox"/>	LDD-350H <input type="checkbox"/>	LDD-500H <input type="checkbox"/>	LDD-600H <input type="checkbox"/>	LDD-700H <input type="checkbox"/>	LDD-1000H <input type="checkbox"/>	LDD-1200H	LDD-1500H	
	Voltage Range	2 ~ 52VDC						2 ~ 46VDC		
	Current Range	300mA	350mA	500mA	600mA	700mA	1000mA	1200mA	1500mA	
	Current Accuracy	±3% at 24VDC input ; ±4% at 48VDC input for LDD-H/HW ; ±5% for LDD-HS								
	Ripple Noise MAX.	150mVp-p	150mVp-p	150mVp-p	200mVp-p	200mVp-p	350mVp-p	350mVp-p	350mVp-p	
	Switching Frequency	40KHz ~ 1000KHz								
	External Capacitance Load	2.2uF								
PWM DIMMING & ON/OFF CONTROL	Remote On/Off	Leave open if not in use Power ON with dimming: DIM~ -VIN >2.5 ~ 6VDC or open circuit Power OFF: DIM~ -VIN <0.8VDC or short								
	PWM Frequency	100 ~ 1KHz								
	Quiescent Input Current in Shutdown Mode	1mA at PWM dimming OFF and 24VDC input								
PROTECTION	Short Circuit	Regulated at rated output current Protection Type: Can be continued, recovers automatically after fault condition is removed								
	Over Temperature	Tj 150°C typically (IC1) detect on main control IC Protection type: Shut down, recovers automatically after temperature goes down								
ENVIRONMENT	Working Temp.	-40 ~ +85°C (Refer to "Derating Curve")								
	Working Humidity	20% ~ 90% RH non-condensing								
	Storage Temp., Humidity	-55 ~ +125°C, 10~95%RH								
	Temp. Co-efficient	±0.03%/°C								
	Vibration	10~500Hz, 2G 10min./1cycle, period for 60min. each along X, Y, Z axes								
EMC	Operating Case Temp.	100 °C								
	EMC Emission	Compliance to EN55015, FCC part 15 class B, EAC TP TC 020								
OTHERS	EMC Immunity	Compliance to EN61000-4-2,3,4,6,8, light industry level, criteria A, EAC TP TC 020								
	M.T.B.F.	1000K hrs min. MIL-HDBK-217F (25°C)								
	Potting Material	Epoxy(UL94-V0) for LDD-H/HW ; without potted for LDD-HS								

1. All parameters are specified at normal input (48VDC), rated load, 25°C 70% of RH ambient.
2. Ripple & noise are measured at 20MHz of bandwidth by using a 12" twisted pair-wire terminated with a 0.1uF capacitor.
3. Test condition: 48VDC input.
4. Output voltage will always step down by 3 volts from input DC voltage.
5. The output of LDD-H should not be connected to the input of the same unit or output from other sources.

LDD-H Series

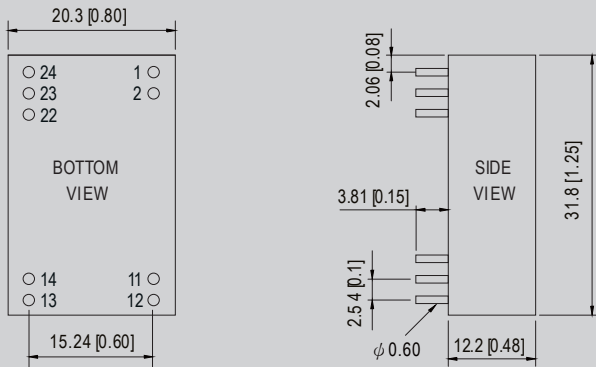
DC-DC Constant Current Step-Down LED Driver



Mechanical Specification

Blank type(LDD- 300~1000H):

Unit: mm (inch)

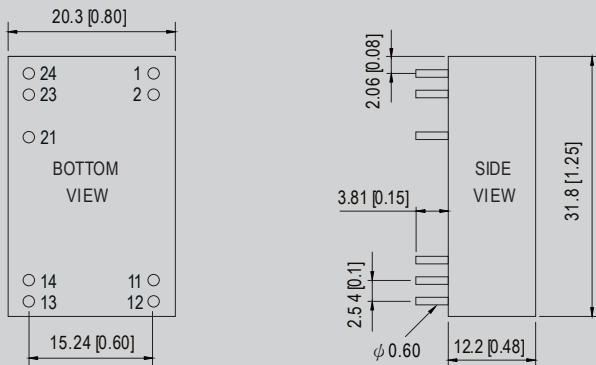


NOTE: Pin tolerance ± 0.05 mm

Pin Configuration

Pin No.		Comment
1,2	-Vin	Don't connect to -Vout
11,12	-Vout	LED - Connection
13,14	+Vout	LED + Connection
22	PWM DIM	ON/OFF and PWM Dimming (Leave open if not used)
23,24	+Vin	DC Supply
others	N.C	No connection

Blank type(LDD- 1200~1500H):

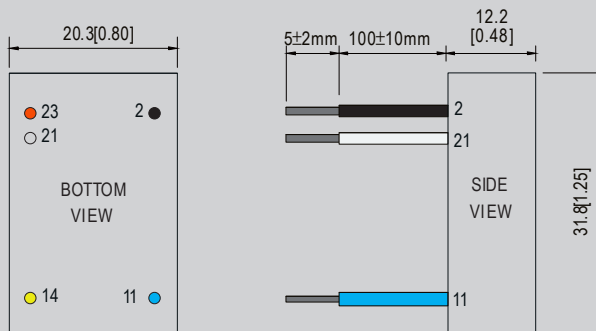


NOTE: Pin tolerance ± 0.05 mm

Pin Configuration

Pin No.		Comment
1,2	-Vin	Don't connect to -Vout
11,12	-Vout	LED - Connection
13,14	+Vout	LED + Connection
21	PWM DIM	ON/OFF and PWM Dimming (Leave open if not used)
23,24	+Vin	DC Supply
others	N.C	No connection

W type(LDD- 300~1500HW):



NOTE: All wires UL3385 22AWG

Pin Configuration

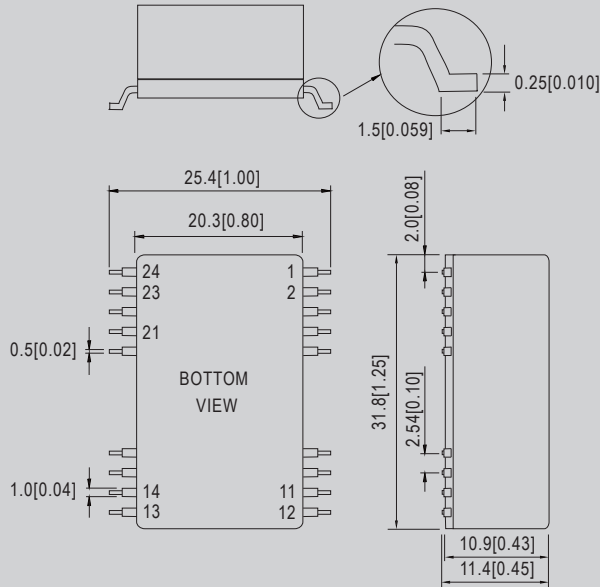
Pin No.		Comment
2	-Vin (Black)	Don't connect to -Vout
11	-Vout (Blue)	LED - Connection
14	+Vout (Yellow)	LED + Connection
21	PWM DIM (White)	ON/OFF and PWM Dimming (Leave open if not used)
23	+Vin (Red)	DC Supply
others	N.C	No connection

LDD-H Series

DC-DC Constant Current Step-Down LED Driver

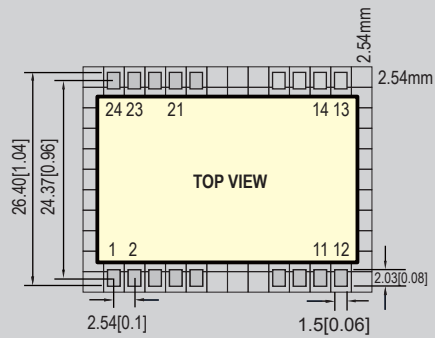


S type(LDD - 300~1000HS):

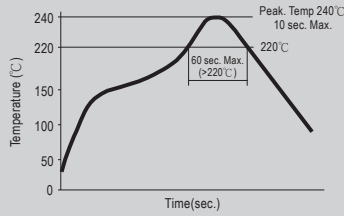


Pin No.		Comment
1,2	-Vin	Don't connect to -Vout
11,12	-Vout	LED - Connection
13,14	+Vout	LED + Connection
21	PWM DIM	ON/OFF and PWM Dimming (Leave open if not used)
23,24	+Vin	DC Supply
others	N.C	No connection

Recommended PCB layout (for LDD-300~1000HS)

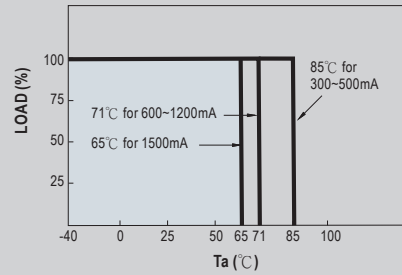


Reflow Soldering Curve (for LDD-300~1000HS)

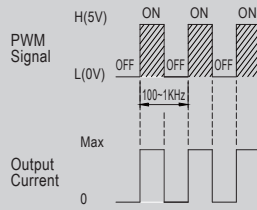


Remark : The curve applies only to the " Hot Air Reflow Soldering"

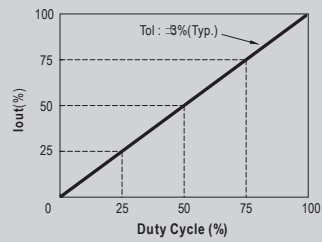
Derating Curve



PWM Control



© During PWM dimming operation, the output current will change to PWM style.



Standard Application

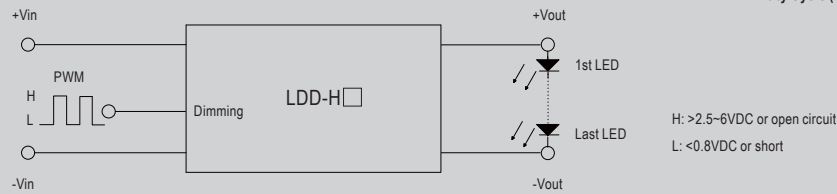


Fig-1 12VDC input, 1-3 LEDs(Vf=3V)

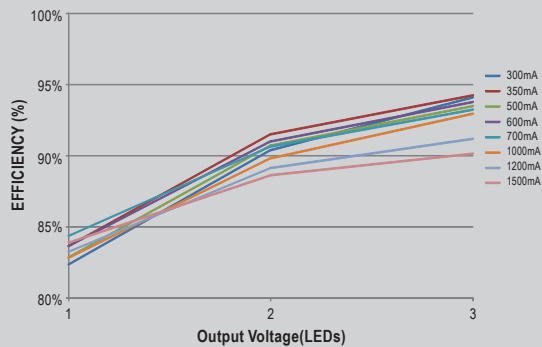
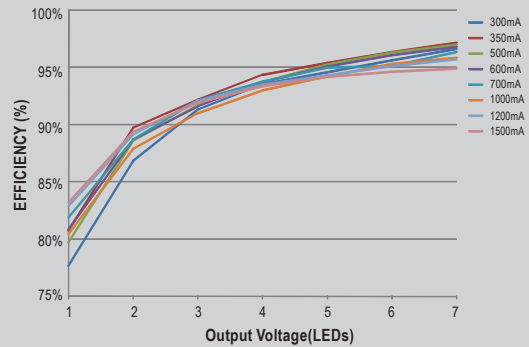


Fig-2 24VDC input, 1-7 LEDs s(Vf=3V)



Efficiency VS Output Voltage (Number of LEDs)

Fig-3 36VDC input, 1-10 LEDs(Vf=3V)

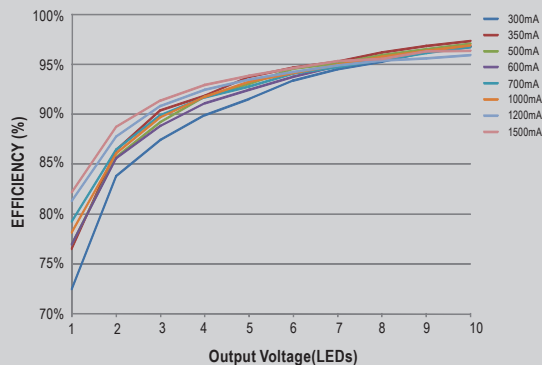


Fig-4 48VDC input, 1-14 LEDs(Vf=3V)

